

Amendments to the Claims:

1. (Currently Amended) A method of forming a congestion map by calculating a probability that a wire path in a pre-determined direction will be contained in a given area within a datapath, said method comprising:

dividing the datapath into pre-determined areas to define said given area;

calculating the mathematical expectations of full segments in the pre-determined direction for said given area in said datapath;

calculating the mathematical expectations of partial segments in the pre-determined direction for said given area in said datapath;

summing the mathematical expectations which have been calculated to determine the probability that a wire path in the pre-determined direction will be contained in the given area within the datapath; and

entering the probability on the congestion map.

2. (Original) A method as recited in claim 1, further comprising calculating the probability for each connection in the datapath.

3. (Original) A method as recited in claim 2, further comprising summing the probabilities to calculate the whole mathematical expectation of segments in the pre-determined direction in the given area for all the connections in the datapath.

4. (Original) A method as recited in claim 1, further comprising calculating the mathematical expectations of full horizontal segments for said given area in said datapath.

5. (Original) A method as recited in claim 1, further comprising calculating the mathematical expectations of partial horizontal segments for said given area in said datapath.

6. (Original) A method as recited in claim 1, further comprising calculating the mathematical expectations of full horizontal segments for said given area in said datapath, and calculating the mathematical expectations of partial horizontal segments for said given area in said datapath.

7. (Original) A method as recited in claim 6, further comprising summing the mathematical expectations which have been calculated to determine the probability that a wire path in the horizontal direction will be contained in the given area within the datapath.

8. (Original) A method as recited in claim 1, further comprising calculating the mathematical expectations of full vertical segments for said given area in said datapath.

9. (Original) A method as recited in claim 1, further comprising calculating the mathematical expectations of partial vertical segments for said given area in said datapath.

10. (Original) A method as recited in claim 1, further comprising calculating the mathematical expectations of full vertical segments for said given area in said datapath, and calculating the mathematical expectations of partial vertical segments for said given area in said datapath.

11. (Original) A method as recited in claim 10, further comprising summing the mathematical expectations which have been calculated to determine the probability that a wire path in the vertical direction will be contained in the given area within the datapath.

12. (Original) A method as recited in claim 1, further comprising calculating the mathematical expectations of full horizontal segments for said given area in said datapath and calculating the mathematical expectations of full vertical segments for said given area in said datapath.

13. (Original) A method as recited in claim 12, further comprising calculating the mathematical expectations of partial horizontal segments for said given area in said datapath and calculating the mathematical expectations of partial vertical segments for said given area in said datapath.

14. (Original) A method as recited in claim 1, further comprising calculating the mathematical expectations of full horizontal segments for said given area in said datapath, calculating the mathematical expectations of partial horizontal segments for said given area in said datapath, summing the mathematical expectations relating to horizontal segments which have been calculated to determine the probability that a wire path in the horizontal direction will be contained in the given area within the datapath, calculating the mathematical expectations of full vertical segments for said given area in said datapath, calculating the mathematical expectations of partial vertical segments for said given area in said datapath, and summing the mathematical expectations relating to vertical segments which have been calculated to determine the probability that a wire path in the vertical direction will be contained in the given area within the datapath.